IN THE CLAIMS

Kindly replace the claims of record with the following full set of claims:

1. (Original) An apparatus for classifying digital broadcast channel data according to virtual channel connection (VCC), comprising:

an optical signal receiver for converting an optical signal from an optical line terminal (OLT) into an ATM (Asynchronous Transfer Mode) cell that is classified according to the VCC;

a VCC-based ATM cell classifier for detecting header information and a payload part from the classified ATM cell of each VCC delivered from the optical signal receiver;

a controller;

a plurality of PID (Program ID) analyzers for receiving respective payload parts of an ATM cell corresponding to one VCC from the VCC-based ATM cell classifier, extracting PID of each broadcast channel from digital broadcast channel data included in the payload part, and outputting broadcast channel data in the broadcast channel data included in the payload part under the control of the controller; and

a switch for receiving broadcast channel data output from the PID analyzers and switching the received broadcast channel data to a broadcast channel desired by a subscriber under the control of the controller,

wherein the controller updates broadcast channel information by receiving header information of the classified ATM cell of each VCC from the VCC-based ATM cell classifier, receives the broadcast channel desired by the subscriber, and controls the PID analyzers to output the desired broadcast channel according to VCC information with the desired broadcast channel included therein so that the output broadcast channel is matched to the subscriber.

2. (Original) The apparatus of claim 1, wherein the header information comprises:

an ATM VCC field indicating that the classified ATM cell of each VCC is an ATM VCC;

a channel information field including broadcasting station information corresponding to PID information of each broadcast channel field included in a payload part of the classified ATM cell of each VCC to indicate a change in a broadcast channel of each VCC, including addition of a new broadcast channel, deleting of an existing broadcast channel and rearrangement of a broadcast channel; and

one or more channel position fields indicating start and end positions of each broadcast channel field.

3. (Original) The apparatus of claim 1, wherein the controller is arranged to perform:

a first function of updating broadcast channel information by receiving header information of the classified ATM cell of each VCC from the VCC-based ATM cell classifier;

a second function of receiving a broadcast channel desired by the subscriber, searching VCC information with the desired broadcast channel included therein from the updated broadcast channel information, transmitting an output signal for the desired broadcast channel to the PID analyzer based on the corresponding VCC information, and outputting the desired broadcast channel; and

a third function of controlling the switch so that a broadcast channel output by the second function is matched to the subscriber.

4. (Currently amended) A digital broadcast channel switching method that classifies digital broadcast channel data according to virtual channel connection (VCC), comprising the steps of:

(a) converting an optical signal provided from an optical line terminal (OLT) into an ATM cell that is classified according the VCC;

(b) updating broadcast channel information of each VCC from a header in the classified ATM cell of each VCC;

(c) storing a payload part of the classified ATM cell of each VCC, and extracting PID (Program ID) of broadcast channels included in the payload part from the stored payload part;

(d) receiving a broadcast channel desired by a subscriber, and searching information on VCC with the desired broadcast channel included therein from the updated broadcast channel information of each VCC;

(e) sending information on the desired broadcast channel to a storage device corresponding to the VCC information among storages where the payload part is stored according to VCC in the step (c), based on the searched VCC information so as to output only desired broadcast channel data; and

[[(d)]] (f) switching the broadcast channel data output in [[the]] step (e) so that the broadcast channel data is delivered to the subscriber.

5. (Original) The digital broadcast channel switching method of claim 4, wherein the classified ATM cell of each VCC comprises:

an ATM VCC field indicating that the classified ATM cell of each VCC is an ATM VCC;

the header including a channel information field having broadcasting station information corresponding to PID information in each broadcast channel field included in the payload part to indicate a change in a broadcast channel of each VCC, including addition of a new broadcast channel, deletion of an existing broadcast channel and rearrangement of a broadcast channel, and a channel position field indicating start and end positions of the broadcast channel field; and

the payload part including a plurality of broadcast channel fields.

6. (Original) The digital broadcast channel switching method of claim 5, wherein the broadcast channel field comprises:

an MPEG (Moving Picture Experts Group) data field filled with digital broadcast

data; and

a PID information field filled with channel information of the MPEG data field.

7. (Currently amended) A computer-readable ~~memory~~ medium comprising executable code to classify digital broadcast channel data according to virtual channel connection (VCC), the code when loaded in a processor causes the processor to ~~comprising~~:

~~code to~~ update broadcast channel information of each VCC from a header in an ATM cell that is classified according the VCC;

~~code to~~ store a payload part of the classified ATM cell of each VCC, and extracting PID (Program ID) of broadcast channels included in the payload part from the stored payload part;

~~code to~~ receive a broadcast channel desired by a subscriber, and searching information on VCC with the desired broadcast channel included therein from the updated broadcast channel information of each VCC;

~~code to~~ send information on the desired broadcast channel to a storage device corresponding to the VCC information among storages where the payload part is stored according to VCC, based on the searched VCC information so as to output only desired broadcast channel data; and

~~code to~~ switch the output broadcast channel data so that the broadcast channel data is delivered to the subscriber.

8. (Currently amended) The ~~memory~~ medium of claim 7, wherein the classified ATM cell of each VCC comprises:

an ATM VCC field indicating that the classified ATM cell of each VCC is an ATM VCC;

the header including a channel information field having broadcasting station information corresponding to PID information in each broadcast channel field included in

the payload part to indicate a change in a broadcast channel of each VCC, including addition of a new broadcast channel, deletion of an existing broadcast channel and rearrangement of a broadcast channel, and a channel position field indicating start and end positions of the broadcast channel field; and

the payload part including a plurality of broadcast channel fields.

9. (Currently amended) The ~~memory~~ medium of claim 8, wherein the broadcast channel field comprises:

an MPEG (Moving Picture Experts Group) data field filled with digital broadcast data; and

a PID information field filled with channel information of the MPEG data field.